

AMENDMENT UNDER 37 C.F.R. §1.114(c)
U.S. Application No. 10/083,362
Attorney Docket No. Q68702

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1-4. (canceled).

5. (currently amended): A video processing device comprising:

correction amount obtaining means for obtaining a correction amount from sequentially applied moving images,

image correcting means for subjecting an input moving image to quality improving correction processing based on a correction amount obtained by said correction amount obtaining means,

image input means for obtaining [[said]] a frame image from sequentially applied moving images and outputting the image to said correction amount obtaining means, wherein said correction amount obtaining means obtains said correction amount from said frame image and said image correcting means subjects said frame image to quality improving correction processing based on said correction amount,

lapse of fixed time detecting means for counting the number of frames from a frame image whose said correction amount is lastly updated to a current frame image to determine whether the number of frames exceeds a fixed value, and

correction amount update determining means for giving an instruction to update said correction amount when said lapse of fixed time detecting means determines that a fixed time has elapsed.

6. (currently amended): A video processing device comprising:

correction amount obtaining means for obtaining a correction amount from sequentially applied moving images,

image correcting means for subjecting an input moving image to quality improving correction processing based on a correction amount obtained by said correction amount obtaining means,

image input means for obtaining ~~[[said]]~~ a frame image from sequentially applied moving images and outputting the image to said correction amount obtaining means, wherein said correction amount obtaining means obtains said correction amount from said frame image and said image correcting means subjects said frame image to quality improving correction processing based on said correction amount, and

cut point detecting means for detecting a cut point indicative of ~~switching of a scene in~~ changing in an image quality of said moving image based on a change of a feature amount obtained from each frame image, and correction amount update determining means for giving an instruction to update said correction amount when said cut point detecting means detects said cut point.

7. (currently amended): A video processing device comprising:

correction amount obtaining means for obtaining a correction amount from sequentially applied moving images,

image correcting means for subjecting an input moving image to quality improving correction processing based on a correction amount obtained by said correction amount obtaining means,

image input means for obtaining [[said]] a frame image from sequentially applied moving images and outputting the image to said correction amount obtaining means, wherein said correction amount obtaining means obtains said correction amount from said frame image and said image correcting means subjects said frame image to quality improving correction processing based on said correction amount,

lapse of fixed time detecting means for counting the number of frames from a frame image whose said correction amount is lastly updated to a current frame image to determine whether the number of frames exceeds a fixed value,

cut point detecting means for detecting a cut point indicative of switching of a scene in said moving image based on a change of a feature amount obtained from each frame image, and

correction amount update determining means for giving an instruction to update said correction amount either when detection of a lapse of a fixed time is made by said lapse of fixed time detecting means or when detection of said cut point is made by said cut point detecting means.

8-13. (canceled).

14. (original): The video processing device as set forth in claim 6, wherein
said cut point detecting means is structured to consider a result of comparison of a
color histogram generated based on color information of each pixel of said moving image which
is conducted on a frame basis as a feature amount and detect a cut point of said moving image
based on a change of the feature amount.

15. (currently amended): ~~[[The]] video processing device as set forth in claim 14,~~
comprising:

correction amount obtaining means for obtaining a correction amount from
sequentially applied moving images,

image correcting means for subjecting an input moving image to quality
improving correction processing based on a correction amount obtained by said correction
amount obtaining means,

image input means for obtaining a frame image from sequentially applied moving
images and outputting the image to said correction amount obtaining means, wherein said
correction amount obtaining means obtains said correction amount from said frame image and
said image correcting means subjects said frame image to quality improving correction
processing based on said correction amount, and

cut point detecting means for detecting a cut point indicative of switching of a scene in said moving image based on a change of a feature amount obtained from each frame image, and correction amount update determining means for giving an instruction to update said correction amount when said cut point detecting means detects said cut point,

wherein said cut point detecting means is structured to consider a result of comparison of a color histogram generated based on color information of each pixel of said moving image which is conducted on a frame basis as a feature amount and detect a cut point of said moving image based on a change of the feature amount, and

wherein said cut point detecting means is structured to, at the time of generating said color histogram from said moving image, generate said color histogram after thinning out the image at fixed intervals.

16. (currently amended): A video processing device comprising:
- image input means for obtaining a frame image from sequentially applied moving images, and
- cut point detecting means for detecting a cut point indicative of switching of a scene in changing in an image quality of said moving image based on a change of a feature amount obtained from each frame image.

17. (original): The video processing device as set forth in claim 16, wherein

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said cut point detecting means is structured to consider a result of comparison of a color histogram generated based on color information of each pixel of said moving image which is conducted on a frame basis as a feature amount and detect a cut point of said moving image based on a change of the feature amount.

18. (currently amended): ~~[[The]]~~ A video processing device ~~as set forth in claim 17,~~
comprising:

image input means for obtaining a frame image from sequentially applied moving images, and

cut point detecting means for detecting a cut point indicative of switching of a scene in said moving image based on a change of a feature amount obtained from each frame image,

wherein said cut point detecting means is structured to consider a result of comparison of a color histogram generated based on color information of each pixel of said moving image which is conducted on a frame basis as a feature amount and detect a cut point of said moving image based on a change of the feature amount, and

wherein said cut point detecting means is structured to, at the time of generating said color histogram from said moving image, generate said color histogram after thinning out the image at fixed intervals.

19-30. (canceled).

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31. (currently amended): ~~[[The]]~~ A video processing method ~~as set forth in claim 30,~~
~~further~~ comprising the steps of:

obtaining a correction amount from sequentially applied moving images,
conducting quality improving correction with respect to said applied moving
image based on the obtained correction amount, and
checking said input moving image on a frame basis and when a cut point
indicative of switching of a scene in said input moving image is detected, updating a correction
amount,

at the detection of said cut point, considering a result of comparison of a color
histogram generated based on color information of each pixel of said moving image which is
conducted on a frame basis as a feature amount and detecting a cut point of the moving image
based on a change of the feature amount, and

when detecting said cut point, at the time of generating said color histogram from
said frame image, generating said color histogram after thinning out the image at fixed intervals.

32. (canceled).

33. (currently amended): A video processing method comprising the steps of:
obtaining a frame image from sequentially applied moving images, and

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detecting a cut point indicative of ~~switching of a scene in~~ changing in an image
quality of said moving image based on a change of a feature amount obtained from each frame
image.

34. (original): The video processing method as set forth in claim 33, wherein
at said cut point detecting step, a result of comparison of a color histogram
generated based on color information of each pixel of said moving image which is conducted on
a frame basis is considered as a feature amount and a cut point of said moving image is detected
based on a change of the feature amount.

35. (currently amended): ~~[[The]] A~~ video processing method ~~as set forth in claim 34,~~
comprising the steps of:

obtaining a frame image from sequentially applied moving images, and
detecting a cut point indicative of switching of a scene in said moving image
based on a change of a feature amount obtained from each frame image,

wherein at said cut point detecting step, a result of comparison of a color
histogram generated based on color information of each pixel of said moving image which is
conducted on a frame basis is considered as a feature amount and a cut point of said moving
image is detected based on a change of the feature amount, and

wherein at said cut point detecting step, at the time of generating said color histogram from said moving image, said color histogram is generated after thinning out the image at fixed intervals.

36. (canceled).

37. (canceled).

38. (currently amended): A video processing program for controlling a computer to execute video processing, comprising the functions of:

obtaining a frame image from sequentially applied moving images, and

detecting a cut point indicative of ~~switching of a scene in said moving image~~
~~based on a change of a feature amount obtained from each frame image~~ changing in an image
quality of said input moving image.

39. (canceled).

40. (canceled).

41. (new): A video processing method comprising the steps of:

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a correction amount obtaining step of obtaining a correction amount from sequentially applied moving images,

image correcting step of subjecting an input moving image to quality improving correction processing based on a correction amount obtained by said correction amount obtaining step,

image input step of obtaining a frame image from sequentially applied moving images and outputting the image to said correction amount obtaining step, wherein said correction amount obtaining step obtains said correction amount from said frame image and said image correcting step subjects said frame image to quality improving correction processing based on said correction amount,

lapse of fixed time detecting step of counting the number of frames from a frame image whose said correction amount is lastly updated to a current frame image to determine whether the number of frames exceeds a fixed value, and

correction amount update determining step of giving an instruction to update said correction amount when said lapse of fixed time detecting step determines that a fixed time has elapsed.

42. (new): A video processing method comprising the steps of:

correction amount obtaining step of obtaining a correction amount from sequentially applied moving images,

image correcting step of subjecting an input moving image to quality improving correction processing based on a correction amount obtained by said correction amount obtaining step,

image input step of obtaining a frame image from sequentially applied moving images and outputting the image to said correction amount obtaining step, wherein said correction amount obtaining step obtains said correction amount from said frame image and said image correcting step subjects said frame image to quality improving correction processing based on said correction amount,

lapse of fixed time detecting step of counting the number of frames from a frame image whose said correction amount is lastly updated to a current frame image to determine whether the number of frames exceeds a fixed value,

cut point detecting step of detecting a cut point indicative of switching of a scene in said moving image based on a change of a feature amount obtained from each frame image, and

correction amount update determining step of giving an instruction to update said correction amount either when detection of a lapse of a fixed time is made by said lapse of fixed time detecting step or when detection of said cut point is made by said cut point detecting step.

43. (new): A video processing method comprising the steps of:

a correction amount obtaining step of obtaining a correction amount from sequentially applied moving images,

an image correcting step of subjecting an input moving image to quality improving correction processing based on a correction amount obtained by said correction amount obtaining step,

an image input step of obtaining a frame image from sequentially applied moving images and outputting the image to said correction amount obtaining step, wherein at said correction amount obtaining step, obtaining said correction amount from said frame image and, at said image correcting step, subjecting said frame image to quality improving correction processing based on said correction amount, and

a cut point detecting step of detecting a cut point indicative of changing in an image quality of said moving image based on a change of a feature amount obtained from each frame image, and correction amount update determining step of giving an instruction to update said correction amount when said cut point detecting step detects said cut point.

44. (new): A video processing program for controlling a computer to execute video processing, comprising the functions of:

a correction amount obtaining function of obtaining a correction amount from sequentially applied moving images,

an image correcting function of subjecting an input moving image to quality improving correction processing based on a correction amount obtained by said correction amount obtaining function,

an image input function of obtaining a frame image from sequentially applied moving images and outputting the image to said correction amount obtaining function, wherein at said correction amount obtaining function, obtaining said correction amount from said frame image and, at said image correcting function, subjecting said frame image to quality improving correction processing based on said correction amount, and

a cut point detecting function of detecting a cut point indicative of changing in an image quality of said moving image based on a change of a feature amount obtained from each frame image, and correction amount update determining function of giving an instruction to update said correction amount when said cut point detecting function detects said cut point.

45. (new): A video processing device comprising:

correction amount obtaining means for obtaining a correction amount from sequentially applied moving images,

image correcting means for subjecting an input moving image to quality improving correction processing based on a correction amount obtained by said correction amount obtaining means,

image input means for obtaining a frame image from sequentially applied moving images and outputting the image to said correction amount obtaining means, wherein said correction amount obtaining means obtains said correction amount from said frame image and said image correcting means subjects said frame image to quality improving correction processing based on said correction amount, and

cut point detecting means for detecting a cut point indicative of changing in an image quality of said input moving image.

46. (new): The video processing device as set forth in claim 45, wherein said changing in an image quality is caused by video sources or video shooting conditions.

47. (new): A video processing method comprising the steps of:
a correction amount obtaining step of obtaining a correction amount from sequentially applied moving images,
an image correcting step of subjecting an input moving image to quality improving correction processing based on a correction amount obtained by said correction amount obtaining step,
an image input step of obtaining a frame image from sequentially applied moving images and outputting the image to said correction amount obtaining step, wherein at said correction amount obtaining step, obtaining said correction amount from said frame image and, at said image correcting step, subjecting said frame image to quality improving correction processing based on said correction amount, and
a cut point detecting step of detecting a cut point indicative of changing in an image quality of said input moving image.

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48. (new): The video processing method as set forth in claim 47, wherein
said changing in an image quality is caused by video sources or video shooting
conditions.